# 9 Stage 5 Standard Operating Procedure

## *9.1 Purpose*

The primary purpose of Stage 5 (Construction) is to administer a construction project from receiving the approved contract from Stage 4 through the final acceptance of the constructed project and the delivery of the project to the operations staff (Stage 6). Detailed information for this stage maybe found in:

- Construction Memos – found through the Construction Home Page on the Intranet. These memos provide clarification of specifications.
- EDSM – found on the Intranet
- Contract Administration Manual – found on the Intranet and Web Site
- Material Sampling Manual and Testing Procedures– found on the Web Site
- Application Manuals - Provided through certification courses.

## *9.2 Process*

The process described below and shown in the construction process flowcharts (see pages 9-3 through 9-6) provides an overview of the steps involved in constructing a DOTD project.

### 9.2.1 Notice to Proceed

The department issues the "Notice to Proceed" directing the contractor to begin work or begin the activities covered under the contract.

- Notice Issued – Subsection 103.08 of the DOTD Standard Specifications and EDSM III.1.1.30 establish the procedure and conditions by which the Department issues the "Notice to Proceed"; they also establish the requirements and a uniform policy for the notice as well as other instruments directing the contractor to begin work or begin the activities covered under the contract.

- The Department will issue the contractor a Notice to Proceed no later than 60 calendar days after the Notice of Contract Execution, unless the contractor's written consent has been obtained. Notices from the District will be issued by the District Administrator or his/her designated representative within 30 calendar


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days after the notice of contract execution. If circumstances dictate that the notice needs to be delayed beyond the 30 calendar days, the District Administrator shall provide timely written justification and request the Chief Engineer's approval of the delay.

- Failure to Begin Work – A contractor is responsible for beginning work within 10 days of the "Notice to Proceed" date.

- DOTD Standard Specifications 108.09 establish a uniform policy and authorization to be used when placing a contractor in default for failing to begin work.


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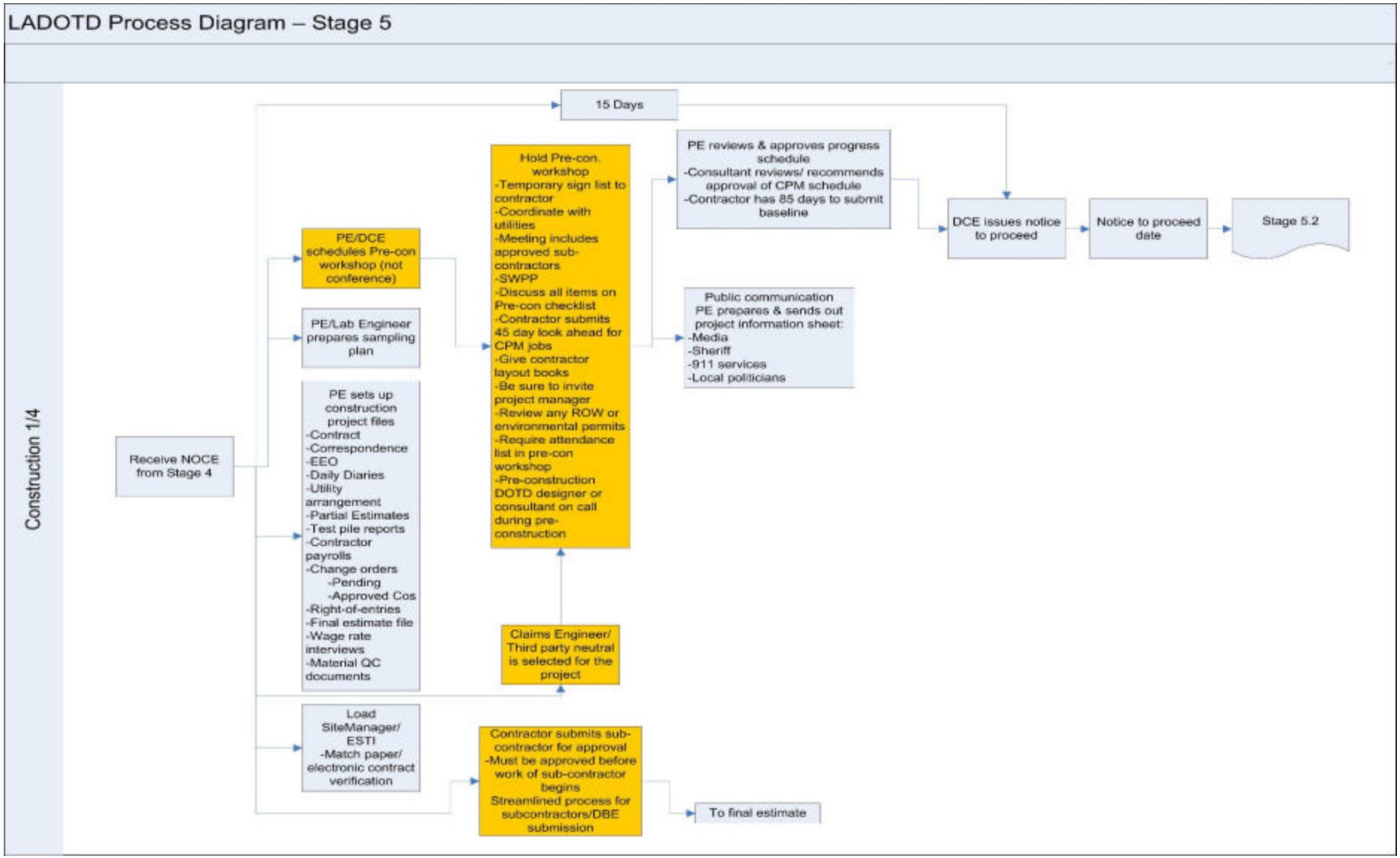



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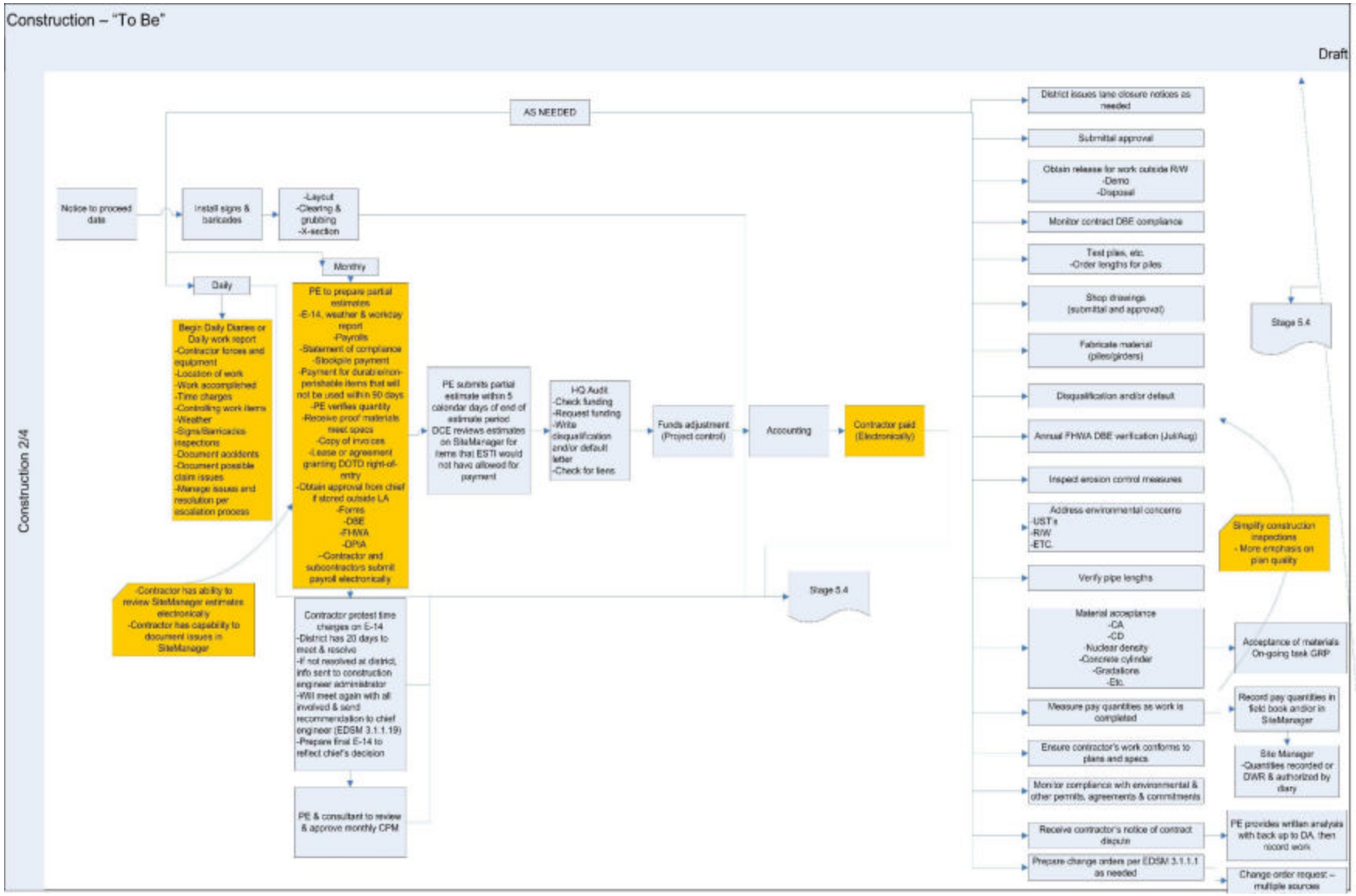



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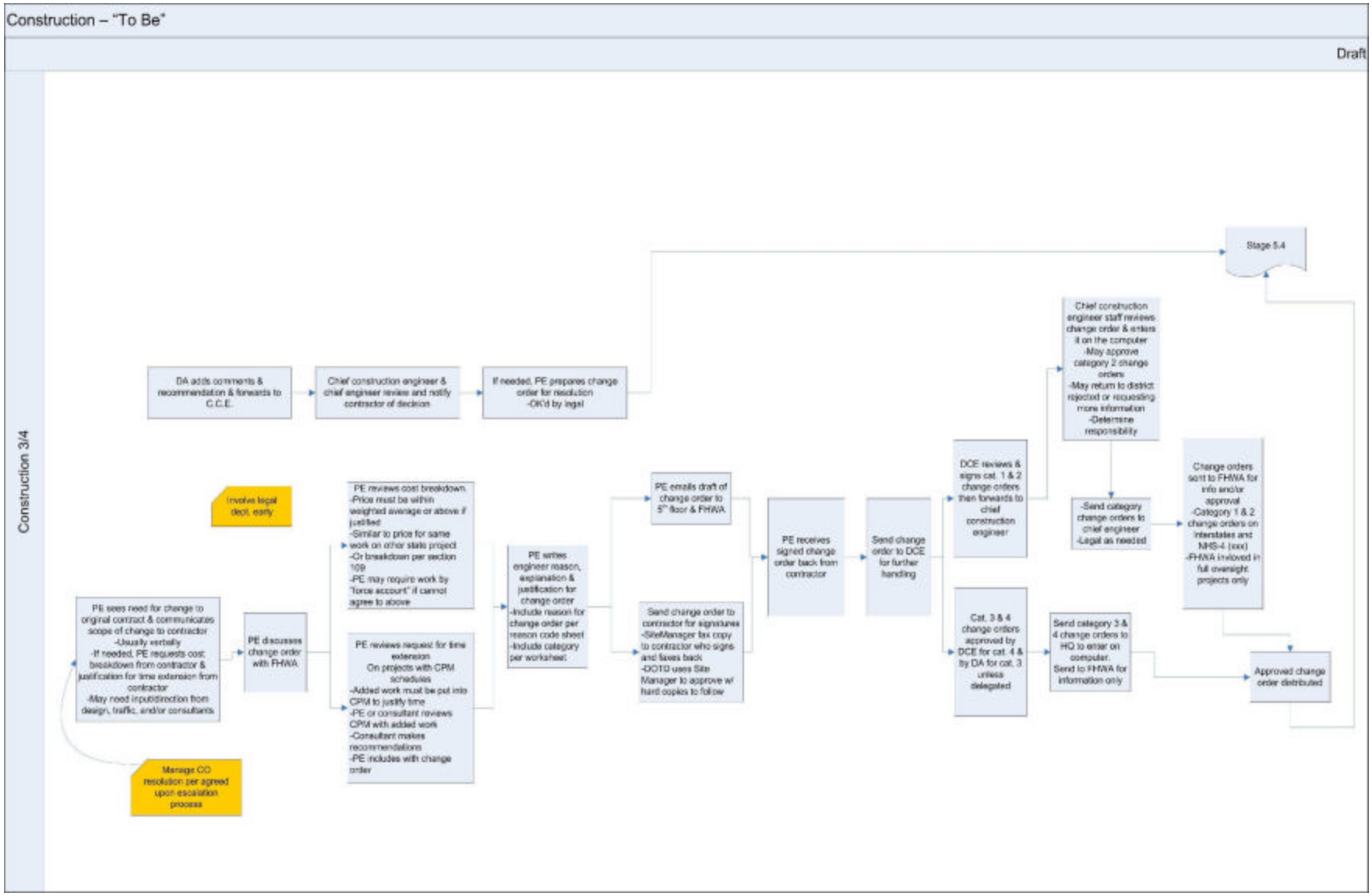



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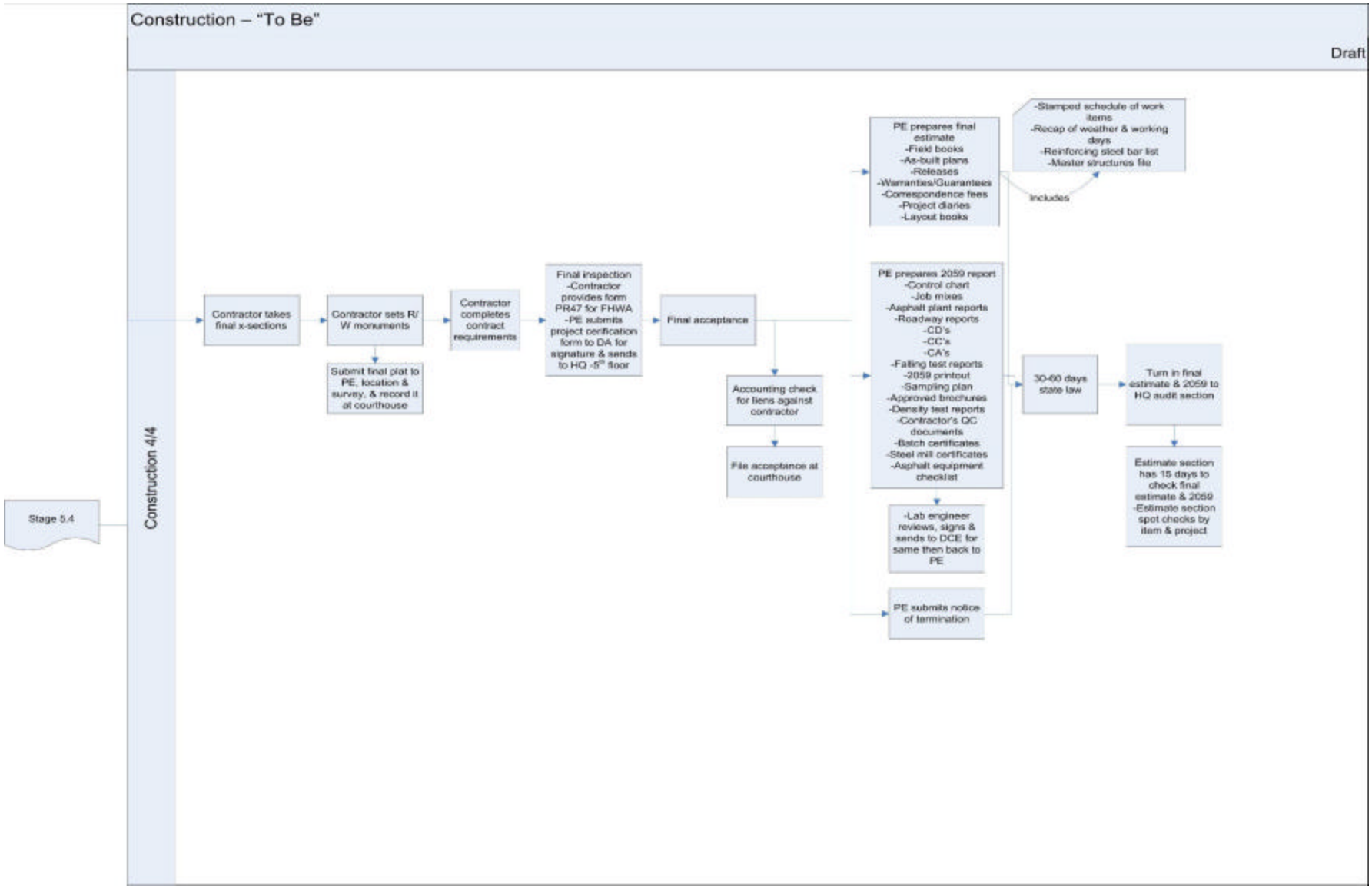



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### 9.2.2 Preconstruction Conference

A preconstruction conference will be held on all projects. The conference will be held prior to the beginning of construction and scheduled sufficiently in advance to permit the attendance of all parties concerned. EDSM III.1.1.7 establishes a uniform policy for preconstruction conferences. The Project Engineer will contact the Project Manager to invite the appropriate individuals to answer design, environmental, right-of-way, and utility questions, etc.

### 9.2.3 Contract Administration

**Project Schedule**

The contractor is required to submit a construction progress schedule to the project engineer for approval. The provisions and policies described below allow for the revision of a previously approved construction progress schedule and define the process of charging contract time, reporting contract time, placing contractors in default, and disqualifying contractors.

- Construction Progress Schedule – DOTD Standard Specification 108.03 establishes the guidelines and procedures for the contractor to submit a construction progress schedule to the project engineer for approval. They also include guidelines for completing the schedule and clarify several issues related to construction progress schedules.
- Revised Construction Progress Schedules - When it is necessary or desirable that a previously approved construction progress schedule be revised, the procedure shall be the same as for the initial schedule.
- Contract Time - EDSM III.1.1.19 describes the procedures for charging contract time, reporting contract time, placing contractors in default and disqualifying contractors.
- Commentary on Contract Time - EDSM III.1.1.24 familiarizes construction personnel and other interested parties with the portions of the General Provisions of the Louisiana Standard Specifications for Roads and Bridges that deal with contract time.

**Contractor Responsibility**

These policies detail the contractor's responsibility for the quality, prosecution, and progress of work.


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- Contractor's Responsibility for Work – DOTD Standard Specification 107.19 requires the contractor to be responsible for and take precautions to prevent damage to work and the project until final acceptance.
- Prosecution and Progress – DOTD Standard Specification 108 establishes procedures and guidelines for subletting, commencement of work, construction progress schedule, prosecution of work, limitations of operations, determination and extension of contract time, failure to complete on time, and default and termination of contract.

**Project Inspection**

It is the duty and authority of project engineers to administer contracts on DOTD construction projects. Along with their inspectors, they inspect all work on or related to construction projects and are authorized to accept or reject work performed by the contractor..

- Authority and Duty of Project Engineer – DOTD Standard Specification 105.09 establishes the authority and duty of project engineers to administer contracts on construction projects.
- Authority and Duty of the Inspector – DOTD Standard Specification 105.10 authorizes the department's inspectors to inspect all work on or related to construction projects and establishes the authority for the inspection of work and materials.
- Certified Inspectors – EDSM III.1.26 list the five areas of DOTD certifications and require that the DOTD personnel holding valid certifications be physically present on the job whenever construction activities are in progress and clarify the training requirements for office personnel in the project engineer's office.
- Inspection by non-DOTD Personnel on Federal Aid Projects - EDSM III.1.1.21 establishes a uniform policy for inspection and acceptance of projects financed with federal and/or state aid and administrated by DOTD where construction is supervised by municipalities, parishes, or other governing bodies or consultants.

**Sampling and Testing**

The sampling and testing procedures for quality assurance of all materials used in a DOTD project must be authorized. Guidelines for the acceptance of materials, the documentation of material quality on construction projects, and the examination of independent assurance samples and tests are discussed as follows.


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- Control of Materials –DOTD Standard Specification 106 establishes procedures and guidelines for the acceptance of materials; i.e., source of supply and quality requirements, acceptance samples and tests, certificates, contractor quality control, plant inspection, field laboratory, handling materials, unacceptable materials, Department-furnished material, etc.
- Material Quality Assurance Documentation – EDSM III.5.1.2 describes the minimum requirements for documentation of material quality on construction projects.
- DOTD Record Tests – EDSM V.2.2.2 provides for the uniform policy of taking independent assurance samples and tests on DOTD projects where federal highway funding is not involved.
- Project Sampling and Testing Summary - Sampling and Testing Form 2059 requires that the project engineer either submit a Final Form 2059 with supporting documentation or a letter stating that no sampling and testing was required on a construction project prior to the final estimate being paid.

**Partial Estimates**

Procedures and guidelines are established for the measurement and payment of work on construction projects. Other policies establish procedures for allowing overruns on partial estimates, determining the due dates on partial estimates, and assessing stipulated damages.

- Measurement & Payment – DOTD Standard Specification 109 establishes procedures and guidelines for the measurement and payment of work on construction projects. This includes compensation for altered quantities, compensation for alterations of the contract, partial payments, payment for stockpiled or stored material, and acceptance and final payment.
- Partial Estimate Overruns - EDSM III.1.1.20 establishes procedures for allowing overruns on Partial Estimates.
- Due Dates on Partial Estimates - EDSM III.4.1.3 establishes a uniform policy for determining the due dates on partial estimates.
- Preparing and Processing Estimates - EDSM III.4.1.1 streamlines the preparation and checking of partial and final estimates through consolidation, revision or elimination of unnecessary documentation or reporting as well as computations that are repetitious in order to expedite processing.


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- Assessment of Stipulated Damages - DOTD Standard Specification 108 establishes the guidelines for assessing stipulated damages.

**Creating and Processing Change Order**

DOTD is authorized to order alterations in quantities and plans. However, a contractor can file a claim for additional compensation due for work, material, delays, inefficiencies, disruptions, etc. Cost savings due to a value engineering proposal can be shared with the contractor.

The project engineer has procedures and guidelines for the measurement and payment of work on construction projects, revisions in contract plans and specifications, work done on a force account basis, contract disputes, and the tracking by category of change orders.

- Alteration of the Contract – DOTD Standard Specification 104.02 establishes the authority for DOTD to order alterations in quantities and plans, as deemed necessary, to complete the work.
- Claims for Additional Compensation – DOTD Standard Specification 105.18 establishes the procedure by which a contractor can file a claim for additional compensation due for work, material, delays, inefficiencies, disruptions, etc.
- Value Engineering Proposals - DOTD Standard Specifications 105.19 establishes the provision to share with the contractor the cost savings generated on a contract as a result of a Value Engineering proposal, offered by the contractor and approved by the department. It also provides the guidelines and procedures for the VE proposal and the approval process.
- Measurement & Payment – DOTD Standard Specification109 establishes procedures and guidelines for the measurement and payment of work on construction projects including compensation for altered quantities, compensation for alterations of the contract, eliminated items, partial payments, payment for stockpiled or stored material and acceptance and final payment.
- Changing Contract Plans and Specifications - EDSM III.1.1.1 establishes a uniform policy for revisions in contract plans and specifications and establishes signature authority and routing for revisions.
- Force Account Work - EDSM III.1.1.15 establishes a procedure for doing work on a force account basis.
- Contract Disputes - EDSM III.1.1.28 establishes the procedure to be followed in the event of contract dispute.


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## Environmental Mitigation

According to DOTD Standard Specification 107.14, the department must handle environmental issues encountered on construction projects using the DOTD procedures and guidelines, as well as federal, state, and local laws and regulations controlling pollution of the environment, including air, water, and noise.

The scope of the Environmental Mitigation is to provide an overview of the most common environmental issues that are encountered on construction projects and the procedures and guidelines for addressing those matters.

### *Underground Storage Tanks*

- Project engineers are instructed to contact the Central Laboratory in a situation where it will be necessary to overrun the plan quantities for the excavation and aeration of contaminated materials from leaking gasoline tanks.
- DOTD Standard Specification 202.02 establishes guidelines and procedures for handling underground fuel tanks, contaminated soils, and contaminated fluids. It also requires the use of a DEQ approved contractor to do the work and that all tanks shall be registered with DEQ by the Materials and Testing Section.
- DOTD Secretary's PPM No. 48 establishes guidelines and policy regarding underground storage tanks and contaminated sites. The policy is divided into four categories or phases of activity; i.e., pre-design, design, acquisition, and construction.

### *Sewer Effluent*

- EDSM I.1.1.6 establishes the DOTD policy on control of sewer effluent discharge onto DOTD rights-of-way and applies to all new construction and reconstruction projects as well as existing roadways.

### *Trees*

- EDSM.I.1.1.21 establishes a general policy governing the treatment of significant trees by the department within the highway right-of-way, zone of construction, or operational influence.
- DOTD Standard Specification 201 establishes general construction requirements for the clearing and grubbing of the DOTD right-of-way on construction projects. Also, tasks the engineer with designating which trees will be removed and directs the contractor to repair damaged trees, which are to remain.


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***Archeological***

- DOTD Standard Specification 107.27 requires the contractor to cease operations in the area when archaeological or historical items are encountered.
- DOTD Standard Specification 107.27 establishes procedures for the engineer to use if the contractor encounters cultural artifacts or archaeological or historical sites; i.e., operations will be discontinued and the engineer will contact the proper authorities in order that an appropriate assessment may be made.
- EDSM III.1.1.22 restates the procedure for the inspection and evaluation of borrow pit and much disposal areas for cultural artifacts, archaeological and historical sites and the reporting of the results of the inspection and evaluation.

**Construction Public Information Plan**

Effective communication is essential to the overall success of any major construction project. The goal of such communication is to provide timely and accurate information to motorists, emergency services personnel, business owners, landowners, public officials, commercial truck operators, the media, and all others who may be impacted by the construction. Complaints about construction projects will usually decrease if the stakeholders remain well informed of the project's schedule, delays, progress, alternate routes, etc. The information must be routinely updated since inaccurate or untimely information will inevitably result in public mistrust. Therefore, prior to the onset of a construction project, a written public information plan will be developed by the assigned public affairs officer, the local district representative, the contractor, and any other involved DOTD personnel.

The plan will consist of the following elements:

1. Assessment of project's impact, based on project length, duration, Average Daily Traffic data, urban/rural location, hours of operation, time of year, local events, businesses on route, critical access to hospitals, emergency service providers, etc.

2. Determination of ***need, individual responsibility and schedule*** for the following elements of the project's communication plan:

- Development of the media contact list for this project; verification of telephone, fax and email addresses; determination of how individual media members prefer to receive press releases/project updates; designation of authorized media


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representative(s); determination of whether public service announcements or work zone campaigns are feasible/effective for particular project

- Development of project fact sheet for all DOTD personnel to use in providing a consistent message and reply to all inquiries; establishment of fact sheet maintenance/update/distribution responsibilities (provision of access via intranet or other means)
- Development and distribution of initial project notification to media, affected businesses and residents, adjacent landowners, general public, local/state officials, law enforcement, emergency services offices, public transit providers, schools and school bus transportation, DOTD Truck Permits, etc.
- Development and distribution of letters or flyers regarding upcoming project (construction schedule, anticipated impacts, contact names and telephone numbers of construction engineer/contractor/project engineer, etc., Web site address if applicable) to affected residents, businesses, public libraries, local restaurants, etc; or development of schedule for individual or group meetings with affected businesses/ residents/ organizations
- Determination as to use of on-the-road advisories such as pre-project message boards indicating when project will start; Highway Advisory Radio; signed detours/alternate routes, etc.; timely maintenance/removal of signs when no longer applicable/necessary
- Timing of regular updates to media by designated DOTD personnel through press releases; timing of regular updates to affected residents/businesses; timing of mandatory progress reports by contractor indicating project status, work completed, any changes in work schedule, estimated completion date, etc.
- Periodic appearances by selected DOTD official on local morning TV shows, radio interviews, etc.
- Public/community briefings at meetings of local organizations such as Rotary Club, Chamber of Commerce, parish or city council meetings, etc.

3. Media interactions must comply with Secretary's PPM No. 6; only DOTD authorized personnel may provide information to the media. As directed in the PPM, the HQ Public Affairs Office must also be notified of media requests for information about agency policy, controversial issues, or potential "news problems." District Administrators/ section heads are responsible for ensuring that persons authorized to interact with media possess and are familiar with the referenced PPM and the "Media Relations" guide issued by HQ Public Affairs and clearly understand the extent of their individual authorization, i.e., provide factual information on project, etc.


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4. Project notifications to sheriffs, parish presidents, fire chiefs and state legislators must comply with Act 103 of the 2003 Legislature, as directed by memo dated August 7, 2003, from the Assistant Secretary, Office of Operations.

5. Prior to project completion, the District Administrator will determine local/State officials' interest in conducting a ribbon-cutting ceremony and advise HQ Public Affairs Office of such at least four weeks in advance of anticipated date of event. If an event is scheduled, HQ Public Affairs will coordinate the ceremony and issue a media advisory and press release on the event.

## Construction Impact Mitigation

The Construction Impact Mitigation noted below is based on the future projects as the stages are completed and the "bin" of projects is ready for construction. This section will be broken down into construction funding, construction time, milestones, and traffic delays.

### 1. Construction Funding

a. Change orders, formerly called plan changes, are coded based on reasons required per the Change Order Reason(s) Code Chart (see Construction Intranet Home Page). The chart is broken down into seven categories: 1) Quantity Errors or Omissions, 2) Differing Site Conditions, 3) DOTD Convenience, 4) Third Party Accommodations, 5) Contractor Convenience, 6) Untimely ROW/Utilities and 7) Design Error.

b. Change Orders that fall into categories 1, 2, and 6 are conditions that must be corrected either due to errors, site conditions or safety. These change orders will be noted to the Project Delivery Steering Committee immediately since they will normally increase the cost of the project.

c. Change Orders that fall into categories 3, 4, or 5 can be reviewed before commitment of funds. These change orders will normally involve requests that could either increase or decrease construction cost. They will not be noted to the Project Delivery Steering Committee until after the approved funding has been overrun. At present the plan change data sheet generated by the project engineer


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from ESTI (Construction Estimate System) shows the amount of funding left on a project. This form will be modified to notify the Project Delivery Steering Committee when the project begins to show an overrun.

**2. Construction Time**

a. Projects are let with several different types of contract times: working day, calendar day, and with A+B calendar day. Cost plus time (A+B) bidding procedures and contract time on a calendar day basis will be used whenever practical, including, but not limited to, urban system projects and bridge replacement projects for both on-state-system and off-state-system roads. The maximum allowable contract time will be specified in the project specifications. A+B bidding procedures will not be used on the following:

1. Non-interstate pavement preservation projects and typical contract maintenance projects will be let as working day projects. These projects are simple in nature, allowing accurate contract time determination by the department. A large portion of these projects require utility relocation, which may not be possible prior to the contractor beginning work. Working day projects allow easy suspension of contract time when utility conflicts are encountered.

2. Enhancement projects will be let as working day projects. These projects typically do not greatly impact traffic and may be contracted to smaller contractors. If an adverse impact to traffic is predicated, A + B bidding procedures and/or calendar day contract time will be considered.

3. Clearing and grubbing projects will be let as calendar day projects. These projects are simplistic in nature, allowing accurate contract determination by the department.

b. Calendar day projects will have a list of anticipated monthly holidays and adverse weather days. For A+B projects, contractors will include these "lost days" in their "B" bid. Contractors can request additional time if the actual adverse wet days exceed the anticipated rain days in the contract at the conclusion of the project. Contracts of this nature will have an estimated completion date that can be tracked monthly.


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c. A+B projects are usually high profile projects with large traffic counts, and incentives and disincentives. Making the contractor bid the number of days based on his resources, phasing operations, and work load will generally produce a tight timetable. The department will set forth strict and precise specifications concerning the desired work hours, lane restrictions, and lane closures on these types of projects. These projects usually require a Critical Path Method (CPM) updated monthly showing any lost days. It is extremely important for the department to be sure all utilities, right-of-way, and any other site conditions that may impede the contractor, are addressed before letting. The completion dates for these types of projects are easy to track. Additional days can be noted to the "Scheduler" (Stage 4) as the project progresses, based on the CPM updates, if the completion date is being pushed back.

In all instances, change orders will be required to add days to any contract. The estimated completion date used by the different methods would adjust the completion date base on the type of contract. This information could be included in the change order and given to the "Scheduler" so as to track projects scheduled to be let.

**3. Milestones**

All A+B calendar day projects will require a milestone schedule. The milestone schedule will include starting date, completion date, lane closure and re-openings for the project duration, and other pertinent events determined during the project development process. The contractor will adjust milestone dates as needed and issue new milestone dates monthly. Milestone adjustments changing the original project completion date more than 30 days will be reported to the Assistant Secretary for Operations.

**4. Traffic Delay Mitigation**

a. A large part of this will be addressed in Stage 3 (Final Design Process). Lane reductions and lane restrictions will be addressed in the phasing of the project along with the specifications. Lane rental charges can be used on projects in which a lane must be removed from service for construction.

b. In the work zones, real time traffic data could be used to notify the motoring public of unexpected delays. With the use of radars placed in and before the work


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zone and variable message boards placed before alternate routes, motorists can be notified of anticipated delays and alternate routes. This equipment and plan will be required in the contract as a pay item, or they will be owned by traffic services and installed by the department.

Traffic mitigation will require a review of the traffic flow during the different phases of the project. Projects on new alignment will have minimal traffic disruption until roadways are tied in, whereas widening or reconstruction projects may affect traffic throughout the contract life. It will be important to note traffic delays prior to construction as several routes are over capacity at present.

### 9.2.4 Final Inspection

DOTD is authorized and has established procedures for the partial and final acceptance of construction projects including the final inspection of work and required project documentation.

- DOTD Standard Specification 108.10 establishes the authority and procedures for the Department to terminate a contract, by written notice, for reasons beyond either the department's or contractor's control.
- EDSM III.5.1.5 establishes a uniform procedure for acceptance of construction projects.
- EDSM III.5.1.6 establishes a uniform procedure for partial acceptance of construction projects.
- EDSM III.5.1.7 states the current policy on project certification and submittal of Form 03-40-4217.

### 9.2.5 Final Acceptance

DOTD is authorized and has established procedures for the final acceptance of construction projects and final payment.

- DOTD Standard Specification 105.17, Acceptance, establishes the procedures for partial and/or final acceptance of work.
- DOTD Standard Specification 109.09, Acceptance & Final Payment, establishes the procedure by which the work will be accepted and final payment made.
- EDSM III.5.1.5, Acceptance of Construction Projects, establishes a uniform procedure for acceptance of construction projects.


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- EDSM III.5.1.6, Procedures for Partial Acceptance of Construction Projects, establishes a uniform procedure for partial acceptance of construction projects.

### 9.2.6 Final Audit

A standard system has been created to minimize complications and assist in the review of final estimates and other audit processes. To expedite processing, the system streamlines the preparation and checking of partial and final estimates.

- EDSM III.5.1.1 describes the filling system for project engineer's offices. It is to insure the development of a standard system that will minimize complications as a result of reassignments, and a system that will assist in the review of final estimates, Form 2059, and other acceptance and audit processes.

EDSM III.4.1.1 streamlines the preparation and checking of partial and final estimates through consolidation, revision or elimination of unnecessary documentation or reporting as well as computations that are repetitious in order to expedite processing.

## *9.3 Deliverables*

The project engineer is responsible for delivery of the final estimate. Refer to the Construction Contract Administration Manual for details.

### 9.3.1 Performance Indicators

- Percentage of projects completed within contract time (= number of projects completed within contract time/ total number of completed projects x 100)
- Percentage of partial estimates processed on time (= number of partial estimates processed on time/ total number of partial estimates)
- Percentage of final estimates processed on time (30 calendar days for projects < $2 million & 60 calendar days for projects > $2 million) (= number of final estimated processed on time/ total number of completed projects)
- Time to process plan change by project engineer (= summation of total number of days to process plan change/ total number of projects)


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